

Question			Answer	Marks	AOs	Guidance	
4	(a)	(i)	Sequence is periodic [with period 4]	B1 [1]	1.2	Do not allow repeating, recurring etc.	The sequence can also be described as oscillating
4	(a)	(ii)	Total of 200 terms is $50 \times (2 + 3 + 0 + 3) = 400$	B1 [1]	1.1b	cao	
4	(b)	(i)	Sequence divergent for Either $b > 1$  or $b \leq -1$	B1  B1 [2]	1.1b  1.1b	Allow for one correct inequality  Must have “or” or the union of sets Condone $b < -1$ or $ b  > 1$	Note for $b = 1$ , the <b>sequence</b> is convergent, but the corresponding <b>series</b> is divergent
4	(b)	(ii)	Infinite sum of geometric series with $a = \frac{1}{3}, r = \frac{1}{3}$  $S = \frac{a}{1-r} = \frac{\frac{1}{3}}{1-\frac{1}{3}} = \frac{1}{2}$	M1  A1 [2]	1.1b  1.1b	Using the sum of geometric series with $r = \frac{1}{3}$  www	